

8th Grade Science Lab Report Format

Introduction

- This section explains the purpose of doing this lab. Ex. The purpose of this _____ lab is to...
- It is here that you give background information on the general topic that the lab is studying to help a reader of your lab report to understand the problem. You may need to refer to your textbook, notes from the teacher, library books, credible Internet sources, etc. Include as much as you can find that is relevant to the topic. *Keep track of all sources for your bibliography.

Experimental Design

- The experimental question/problem that accurately states what is being investigated. What is the question you are going to answer? The problem should be stated as clearly as possible and written as a question that cannot be answered with “yes” or “no.”
- The independent variable. The variable that you are going to alter or change throughout your experiment, identified after the word “if” in your hypothesis.
- The dependent variable. The variable that you are measuring, identified after the word “then” in your hypothesis. Also, note the operational definition of how you will measure your dependent variable (time in seconds, distance in meters, etc.).
- The control. What are you using for a comparison? The control condition can be thought of as the “baseline” or “normal” condition.

Hypothesis

- The hypothesis suggests an answer to the above experimental question. It is an possible outcome to an experiment taking into consideration the background information you researched, prior knowledge or evidence that you have.
- You write a hypothesis in the if/then/because format: If...(independent variable) , then...(dependent variable) , because....a reason for your prediction
- Ex: If different types of racquetballs are dropped , then they will bounce to different heights, because they are made of different materials.

Test

- This section contains a bulleted list of materials you used. Be sure to give the sizes of beakers/cylinders used, quantities of items. Be specific and descriptive with every item.
- This section is a list of numbered steps in the order that you took to complete the lab. The reader should be able to use this section to duplicate your experiment exactly.

- Your description should be detailed, concise and specific. Write in complete sentences (starting with a verb and ending with a period) and list exact quantities and techniques.

Observations

- This section contains a summary of your data in the form of graphs, tables, diagrams, calculations, etc. All of these should be labeled appropriately. This section is just for graphs, tables, and diagrams. Do not give interpretations, explanations, or inferences of your data as this belongs in the discussion section.
- Written observations - Qualitative observations – descriptions such as sights, sounds, smells, etc. you have observed during your experiment. This can be written as a paragraph or bulleted sentences.
- Graphs representing data - Quantitative observations – this could be any type of graph (bar, line, circle) you choose that represents your data properly. You may do this on the computer or by hand on graph paper (neatly using a ruler and in blue or black ink). Be sure to include a title, labeled axes, and proper data points. Also include a data table you make to organize and record measurements during your experiment. Some examples of information that might be recorded in data tables are frequencies, times and amounts.
- Diagram of Experiment - Diagrams/pictures of what your experiment looks like. You can design these on the computer, by hand, use a digital camera, etc. All diagrams should be done very neatly including colors and proper labels.

Discussion

- The discussion is based on your actual results, whether they were expected or not. Explain the significance of your results. Were they what you predicted? Why or why not? How do your results relate to the “because” portion of your hypothesis? **This section is worth the most point value, so be sure you explain why.** Do NOT re-write your results!
- This section is where you are to EXPLAIN YOUR RESULTS and what they mean. You should develop inferences based both on your experimental observations and on your prior knowledge of the topic. Your inferences must logically follow and be supported by your results. Discuss trends observed throughout your experiment.
- Explain why certain data was important and decide if and how the data supported your hypothesis.
- Discuss any weaknesses/problems in the experimental design. Identify sources of error. Suggestions for improvement and design changes to remedy errors or weakness in the design.

Conclusion

- The conclusion section should be brief with no new information. Address only the factors that were tested during the experiment.
- This section is where you state whether or not the data supported the hypothesis. Ex: The data collected did not support the hypothesis. (Do not use the word “my” in this sentence.)
- Talk about significant results, and explain how your data fits into the body of knowledge on the topic. Avoid indicating a definite cause-and-effect relationship.
- Identify limitations. There are always factors outside of your control that influence your results. It’s important to identify these factors before, during, and after the investigation.
- Generate new questions. A good experiment raises as many or more questions than it answers. List further questions that you have and suggestions for further research.

Reports should be written as shown above, listing the headings underlined and meeting the criteria under each heading. The discussion section is worth the most points. Spelling and grammar count and your report should be well written.

8th Grade Science Lab Report Format Rubric

Introduction ----- Points: _____ / 4

- ☐ Purpose listed in complete sentence with reference to the lab.
- ☐ Background information is relevant to topic and cited properly.

Experimental Design ----- Points: _____ / 8

- ☐ Problem is clearly stated and can NOT be answered with yes or no.
- ☐ Independent variable listed.
- ☐ Dependent variable listed.
- ☐ Control stated.

Hypothesis ----- Points: _____ / 5

- ☐ Written in if/then/because form with 2 variables defined correctly.

Test (Materials & Procedure) ----- Points: _____ / 3

- ☐ Materials were listed very specifically.
- ☐ Steps were listed in the exact order needed to duplicate lab.
- ☐ Steps listed in complete sentences starting with verb and ending with a period.

Observations (Data Collection) ----- Points: _____ / 8

- ☐ Identified qualitative observations.
- ☐ Appropriate display of quantitative data.
- ☐ Extremely well designed diagram (colored, labeled).
- ☐ Table represented data very well.

Discussion ----- Points: _____ / 12

- ☐ Results were very well explained.
- ☐ Inferences logically followed and supported your results.
- ☐ Trends were discussed.
- ☐ Explained WHY data was important.
- ☐ Weaknesses in experimental design were discussed.
- ☐ Sources of error were indicated.

Conclusion ----- Points: _____ / 8

Conclusion indicates 4 factors:

- ☐ Whether the findings supported the hypothesis
- ☐ Limitations
- ☐ What was learned from the experiment
- ☐ Generated a new question(s)

Spelling & Grammar ----- Points: _____ / 2

- ☐ Two or fewer errors in spelling, punctuation and grammar in the report.

Total Points: _____ / 50

Grade Score Key:

0 - 9 = 50 - 59 [F]

10 - 19 = 60 - 69 [D]

20 - 29 = 70 - 79 [C]

30 - 39 = 80 - 89 [B]

40 - 49 = 90 - 99 [A]

50 = 100